Network Video Recorders

Quick Guide

Manual Version: V1.01

Notice

The information in this manual is subject to change without notice. Every effort has been made in the preparation of this manual to ensure accuracy of the contents, but all statements, information, and recommendations in this manual do not constitute the warranty of any kind, express or implied.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Preface

Audience

This manual is intended for:

- Surveillance system planners
- Field technical support and servicing engineers
- Software installation, configuration, and servicing administrators
- Product users

Safety and Compliance Information

Conventions Used Symbol

The symbols in this chapter are shown in the following table. They are used to remind the reader of the safety precautions during equipment installation and maintenance.

Safety Symbol	Description
	Generic alarm symbol: To suggest a general safety concern.
	ESD protection symbol: To suggest electrostatic-sensitive equipment.
	Electric shock symbol: To suggest a danger of high voltage.

Safety Information

WARNING!

Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

Warnings:

- If the product does not work properly, please contact your dealer. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- The separate grounding terminal must be permanently connected to earth.
- For AC supplied model: The plug-socket combination must be accessible at all times as it serves as the main disconnecting device.
- Before the power cable is installed or removed, the power must be turned off.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Improper use or replacement of the battery may result in hazard of explosion. Please use the manufacturer recommended battery type.

Caution: Fiber optic ports – optical safety.

Never look at the transmit laser while the power is on. Never look directly at the fiber ports and the fiber cable ends when they are powered on.

Caution: Use of controls or adjustments to the performance or procedures other than those specified herein may result in hazardous laser emissions.

Regulatory Compliance

FCC Part 15

This equipment has been tested and found to comply with the limits for digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

WEEE Directive–2002/96/EC

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Contents

1 Installation 1

Installing Hard Disks 1

Installing the Device 5

Installation on a Workbench 5

Installation in a Cabinet 5

2 Appearance and Connection 6

Appearance 6

Front Panel Description 6

Back Panel Description 9

Connection 10

Connecting an Alarm Input/Output Device 10

Connecting an RS485 Device 12

3 Power On/Off 12

Before Power-On 12

Power On 13

Power Off 13

4 Common Configuration 13

Wizard 13

Channel Management 15

Adding an IP Camera by Auto-Add 15

Adding an IP Camera by Search 16

Adding an IP Camera Manually 18

Preview 19

Preview Pane Toolbar 19

Status Icon 20

Right-Click Menu 20

Scheduled Recording 21

Playback 22
Accessing Through the Web 23

5 Specifications 24

1 Installation

CAUTION!

Disconnect power from the device before installation. Wear antistatic gloves during the installation.

The NVR device is referred to as device in this manual.

Installing Hard Disks

For the hard disk that the device supports, contact your dealer. The following figures are for your reference only. The actual appearance may vary depending on your device model.

Follow the steps:

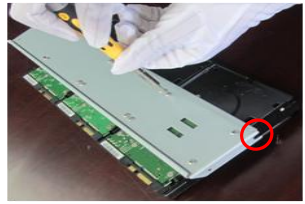
1. Use a cross screwdriver to loosen the fixing screws on the upper side of the rear panel (with the rear panel facing you).

2. Gently slide the cover backward to open it.

3. Unscrew the four screws on both sides.

4. Remove the upper and lower mounting plates.

5. Secure each hard disk to the mounting plates with four screws. Make sure the hard disk interfaces are placed in the opposite direction of the U-shaped notch.



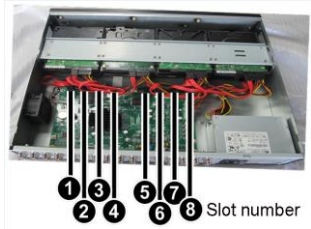
6. Put the lower hard disk mounting plate into the device.

7. Connect four data cables to the hard disks on the lower layer.

8. Connect four power cables to the hard disks on the lower layer.

9. Tighten the two screws on both sides to fix the lower hard disks mounting plate. Follow steps 6 to 9 to install the upper hard disk mounting plate.

10. Route the cables in the space between the hard disks or between the board and the disks as shown in the figure below. Do not place the cables on the hard disks to protect the disks from being compressed.



11. Replace the chassis cover.

12. Secure the rear panel with two screws.

NOTE!

To replace a hard disk, remove the hard disk in the reversed sequence of the above steps first. For disks reinstallation, please refer to the above steps.

Installing the Device

Leave a minimum space of 30 cm at the front and back sides of the device, and a minimum space of 10 cm at the left and right sides of the device for heat dissipation. If the device is installed in a cabinet, keep a minimum space of 1U at the top and bottom for heat dissipation.

Installation on a Workbench

1. Remove the stickers of the supplied foot pads and attach the foot pads to the bottom of the device.
2. Place the device on a clean and stable workbench and the installation completes.

CAUTION!

- Keep your device from the vibration source, for example, the electric generator. Keep your device from direct air flow from air conditioners or fans.
- Do not stack your device or put any heavy object on it.
- Use foot pads to avoid vibration and heat dissipation problems.
- Use shelves and slide rails to bear the weight of the device instead of using suspension loops only.

Installation in a Cabinet

1. Attach a suspension loop to the chassis with the screws aligned with the screw slots, and then secure the suspension loop with two screws (M4x8).
2. Use the same method to install the other suspension loop.

1: Four screws
2: Ellipse hole
3: Suspension loop

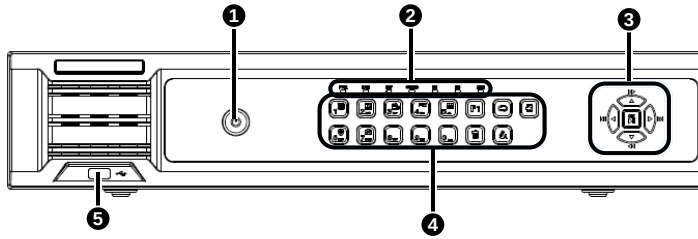
3. Place the device on the slide rails of the cabinet and slide the device into place. And then secure the suspension loops with the cabinet using nuts and screws.

2 Appearance and Connection

The following figures are for your reference only. The actual appearance may vary depending on the device model.

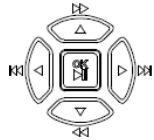
Appearance

Front Panel Description



The buttons and LED indicators on the front panel are described in the following table.

Table 2-1 Front Panel Buttons

No.	Name	Description
1	Power on/off	Turn on/off the device.
2	Indicators	See Front Panel Indicators for detailed information.
3		• △/▽/◁/▷: Move and select menu or pane; PTZ control. • ⏮/⏭: 30 seconds rewind or forward in playback mode. • ◁◁/▷▷: Rewind or forward at multiple speeds in playback mode.

No.	Name	Description
	OK Button	• Press to confirm an operation. • Play/Pause in playback mode.
4	1/ (Menu)	• Key **1** • Press to enter the main menu in preview mode.
	2/ABC/ (Playback)	• Key **2** • Key **ABC** • Press to enter the instant playback interface in preview mode.
	3/DEF/ (Record)	• Key **3** • Key **DEF** • Click to start/stop manual recording in preview mode.
	4/GHI/ PTZ (PTZ)	• Key **4** • Key **GHI** • Press to enter the PTZ control page in preview mode.
	5/JKL/ (Multiple screens)	• Key **5** • Key **JKL** • Press to perform a quick switch between screen-split modes in preview mode.
	6/MNO/ (Arming/Disarming)	• Key **6** • Key **MNO** • Press to enter the arming configuration page, or press and hold the button for 3 seconds to switch between arming and disarming in preview mode.
	7/PQRS/ (Snapshot)	• Key **7** • Key **PQRS** • Press to capture the image in the selected pane in preview/playback

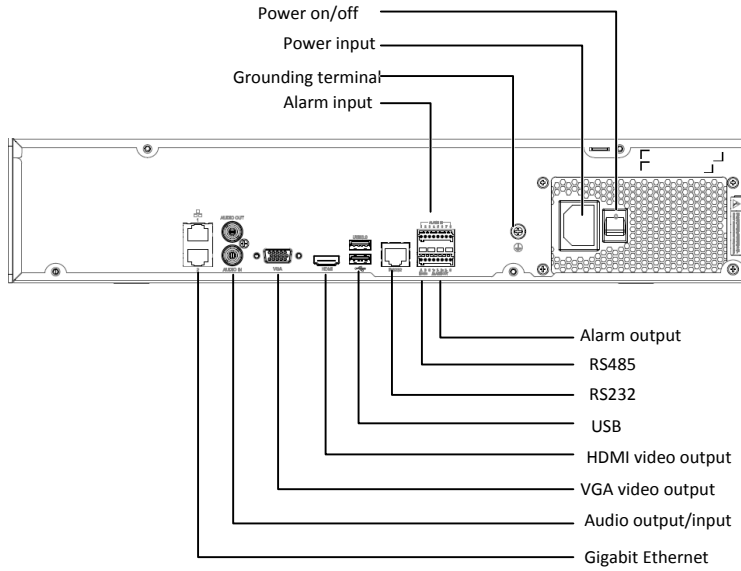
No.	Name	Description
		mode.
	8/TUV	• Key **8** • Key **TUV**
	9/WXYZ	• Key **9** • Key **WXYZ**
	0/ ⎵ (Space)	• Key **0** • Press to enter a space.
	F1	Auxiliary button
		Press to switch to the next tab.
		Quit current window.
		Delete the letter or number.
		Switch the input method.
5	USB interface	Connect to a mouth and a storage device such as USB drive and portable hard disk.

Table 2-2 Front Panel Indicators

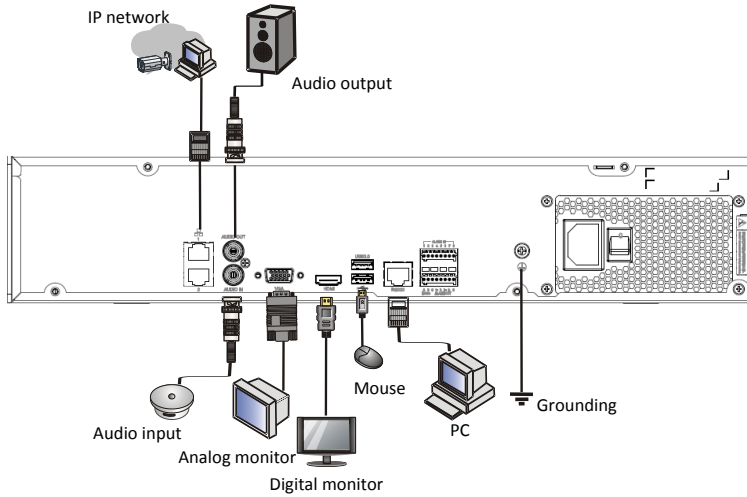
Name	Color	Status	Description
PWR	Blue	Steady on	Device is running correctly.
		Off	No power.
RUN	Blue	Steady on	Device is running correctly.
		Blinking	Device is starting.
		Off	Device is shut down.
NET	Blue	Steady on	Network connection is normal.
		Off	No network connection.
GUARD	Blue	Steady on	Arming enabled.
		Off	Disarming or the device is shut down.
IR	Blue	Steady on	Device is selected and can be controlled remotely.

Name	Color	Status	Description
		Blinking	Device code is being verified.
		Off	Device is not selected and cannot be controlled remotely.
HD	Red	Steady On	No hard disk is installed or hard disk is faulty.
		Blinking	Hard disk is running correctly with data being read or written.
		Off	Hard disk is running correctly with no data being read or written, or system is shut down.
ALM	Red	Steady on	An alarm is raised.
		Off	The system is running correctly with no alarm raised.

Back Panel Description

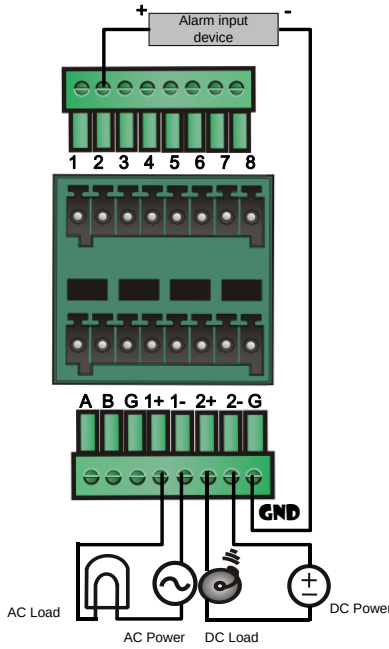


Connection



Connecting an Alarm Input/Output Device

The connection to an alarm input/output device is shown below.



Before connecting the devices, check that:

Alarm input

- The external alarm input device must be powered separately.
- The low-level voltage of the alarm input signal must not exceed 0.7V.
- Either alarm input type is allowed: normally open or normally closed.
- Use relays if necessary when connecting one alarm input device to more than one NVR device.
- The alarm is raised when the alarm input pin is grounded.

Alarm output

- When using a high-power load (125 V AC < 1A or 30 V DC < 1A) as the alarm output device, use contactors if necessary to prevent damage.

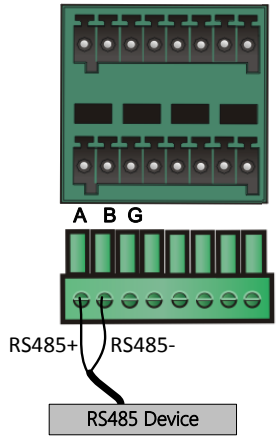
- The external alarm output device must be powered separately.
- By default, the alarm output terminals (1+ and 1-) to (2+ and 2-) are shorted when an alarm is raised.

Connecting an RS485 Device

The device supports two hardware interfaces including RJ45 and phoenix connector to realize the RS485 communication.

The following takes the phoenix connector for example to show the RS485 connection. Connect the device as follows:

Connect A (RS485+) of the phoenix connector to RS485+ of the RS485 device, and connect B (RS485-) of the phoenix connector to RS485- of the RS485 device, as shown in the figure below.



3 Power On/Off

Before Power-On

Before you power on the device, check and ensure that:

- The device is stably installed with all the screws tightened.
- No object is put on the device.

- All the cables are correctly connected.
- The power supply conforms to specifications.

Power On

Connect the device to the power and then press the power button. If the power indicator on the front panel is lit, it indicates that the device is starting up.

Power Off

CAUTION!

Do not directly disconnect power when the device is running or shutting down. A sudden power failure may damage the device.

Option 1:

Press and hold the power button on the front panel for three seconds and then confirm the power-off operation.

Option 2:

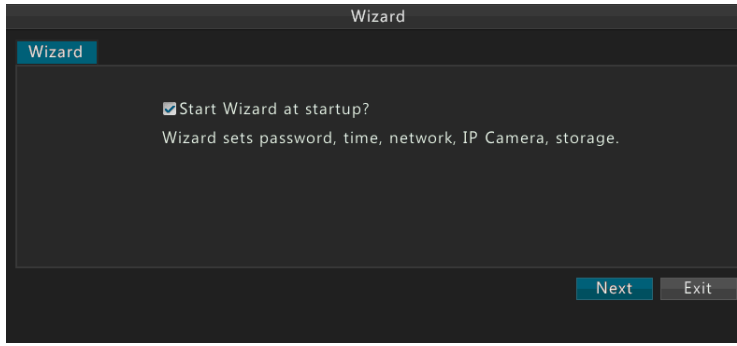
Click **Menu** > **Shutdown > Shutdown** and then click **OK** to confirm the operation.

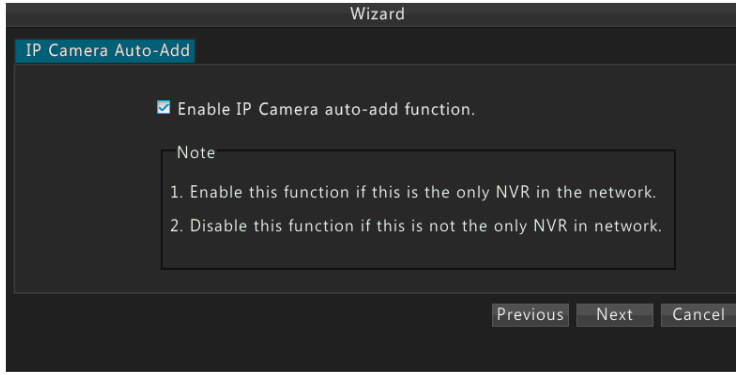
4 Common Configuration

You can use the device through the local operations or the Web operations. Local operations are described in the following sections. Web operations are described in Accessing Through the Web.

Wizard

After the device is started, you can follow the Wizard to set the password, time, network, IP camera and storage. The Wizard is displayed as follows.





The Wizard is described as follows:

- **Change Password**: The default password is “123456”.
- **IP Camera**: Search for and add IP cameras in the same network segment.

NOTE!

- The **IP Camera** window will be displayed if you do not select **Enable IP Camera auto-add function**. If you select **Enable IP Camera auto-add function**, the **IP Camera** window will not display.
- By default, all the found IP cameras can be added if the number is within the allowed limit. If the status of an IP camera is **Connected**, it means the camera is added successfully. If the status is **Disconnected**, check whether the network connection is normal or the username and password are correct.

- **Storage:** a 24-hour recording plan is enabled for all the channels by default. You can choose a channel and set the recording type as needed.

You can use the preview function after the Wizard completes, but you need to log in first to use other functions. The default username is admin, and the default password is “123456”.

Channel Management

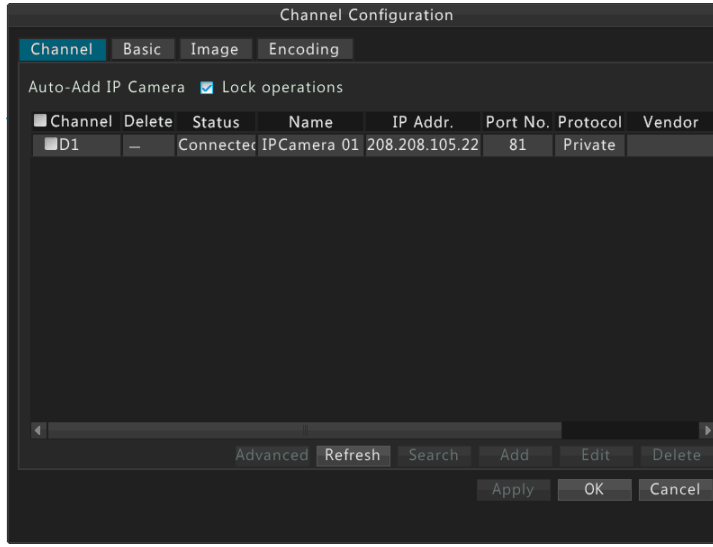
Make sure the IP cameras you want to configure are connected to your device through the network.

Adding an IP Camera by Auto-Add

NOTE!

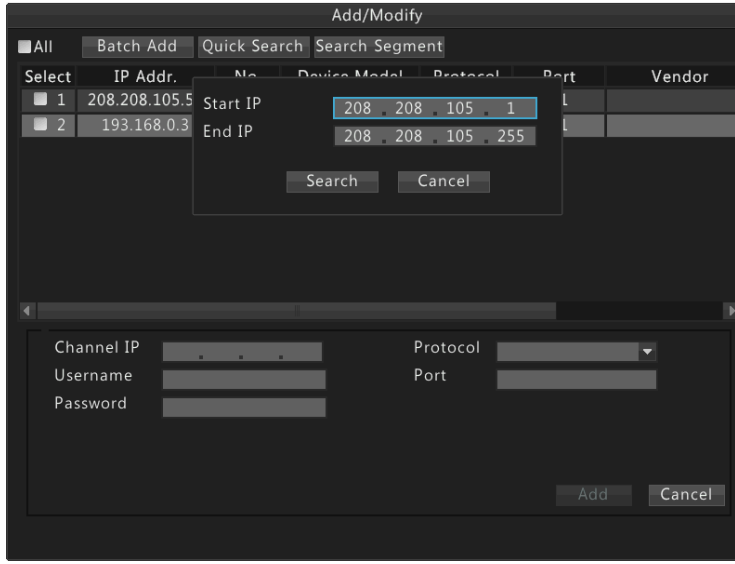
If there is more than one device in the network, do not enable **Auto-Add IP Camera**. Add IP cameras by search or manually.

1. Click **Menu** > **Channel** > **Channel**.
2. Enable **Auto-Add IP Camera** and click **OK**. And then the IP cameras in the same network are added automatically.



Adding an IP Camera by Search

1. Click **Menu** > **Channel** > **Channel**.
2. Click **Search**. A quick search for the IP camera is performed automatically.
3. Click **Search Segment** and then specify a network segment.



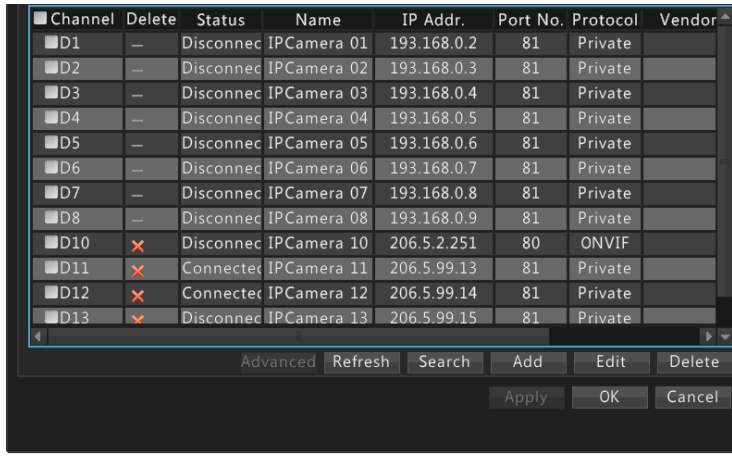
NOTE!

If you want to search IP cameras automatically, click **Quick Search**.

4. Add an IP camera

- To add one IP camera, select the camera, and then click **Add**.
- To add more than one camera at a time, select the cameras and then click **Batch Add,** or select **All** to add all cameras. If the number of selected IP cameras does not exceed the limit, all the selected IP cameras will be added.

5. On the **Channel** tab, check the connection status.



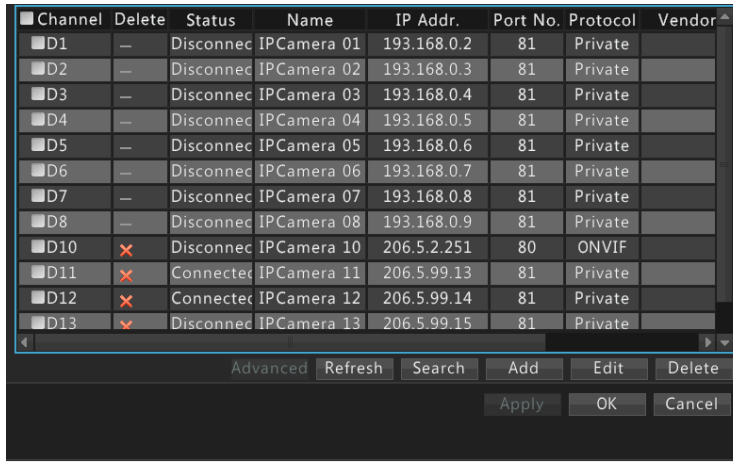
By default, all the found IP cameras can be added if the number is within the allowed limit. If the status of an IP camera is **Connected**, it means the camera is added successfully. If the status is **Disconnected**, check whether the network connection is normal or the username and password of the camera are correct.

Adding an IP Camera Manually

1. Click **Menu** > **Channel** > **Channel**.
2. Click **Add**.

3. Input the IP address and then select the protocol that the device supports. Input the service port number, username and password, and then click **OK**.

4. On the **Channel** tab, check the connection status.



Preview

Preview Pane Toolbar

Click the preview pane and the preview pane toolbar appears.

Table 4-1 Preview Pane Toolbar Description

Icon	Name	Description
	PTZ Control	For a PTZ camera, click this icon to display the PTZ control panel.
	Manual Recording	Click to start recording the live view to the hard disk. To stop manual recording, click the icon again.
	Instant Playback	Click to play the recording of the past 5 minutes.
	Digital Zoom	Click to zoom in the selected area to the full screen.

	Image Config	Click to select a mode and configure image settings.
	Exit	Click to quit the current toolbar.

Status Icon

Channel status is indicated by the icons in the preview pane.

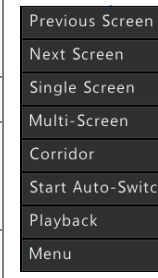
Table 4-2 Icon description

Icon	Name	Description
	Alarm	Indicates that a motion-detection alarm or a tampering alarm is reported.
	Recording	Indicates that the video in the pane is being recorded manually.

Right-Click Menu

The pop-up menu appears when you right-click the pane.

Table 4-3 Right-Click Menu Description

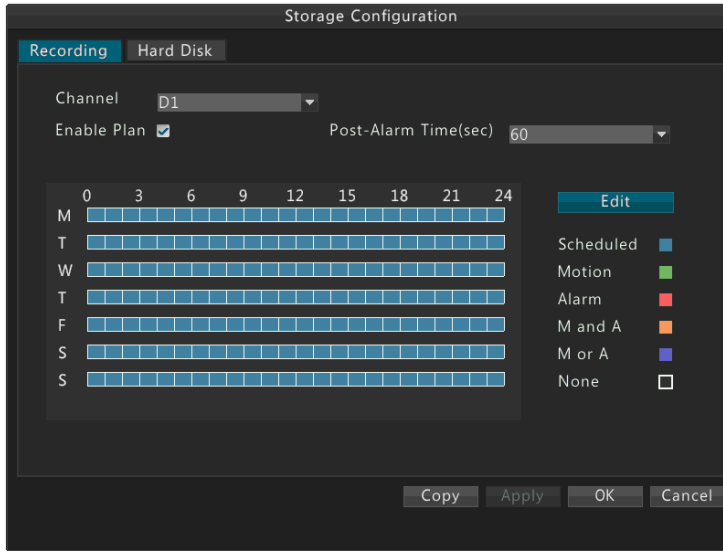
Item	Description	Figure
Previous/Next Screen	Switch to the previous or next screen.	
Single Screen	Click and select an IP camera from the submenu to display in full screen mode.	
Multi-Screen	Change the screen-split mode.	
Corridor	Display video on 3, 5 and 7 screens.	
Start/Stop Auto-Switch	Enable/disable the Auto-Switch function in the current screen-split mode.	
Playback	Play recording in the pane.	

Item	Description	Figure
Menu	Open the main menu.	

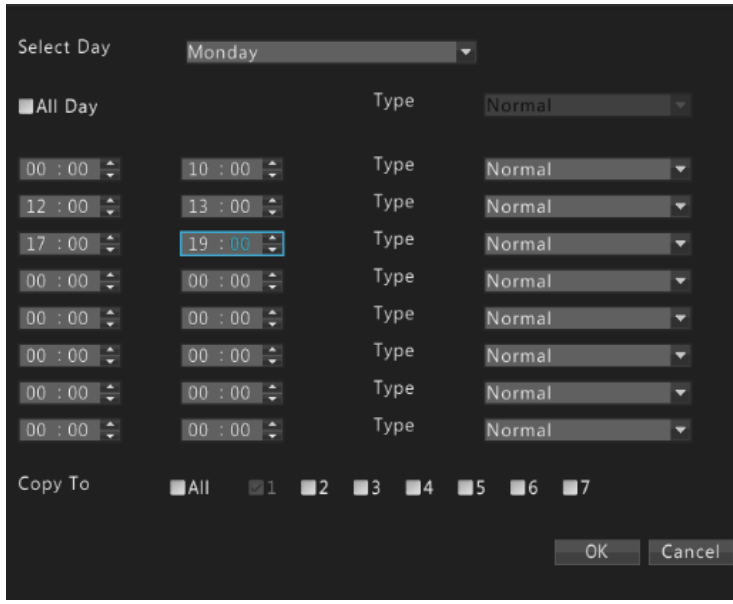
Scheduled Recording

By default, scheduled recording is enabled for all the channels. To change a recording plan, follow these steps:

1. Click **Menu > Storage > Recording**. Select the channel for which you want to schedule recording and then click **Edit**.



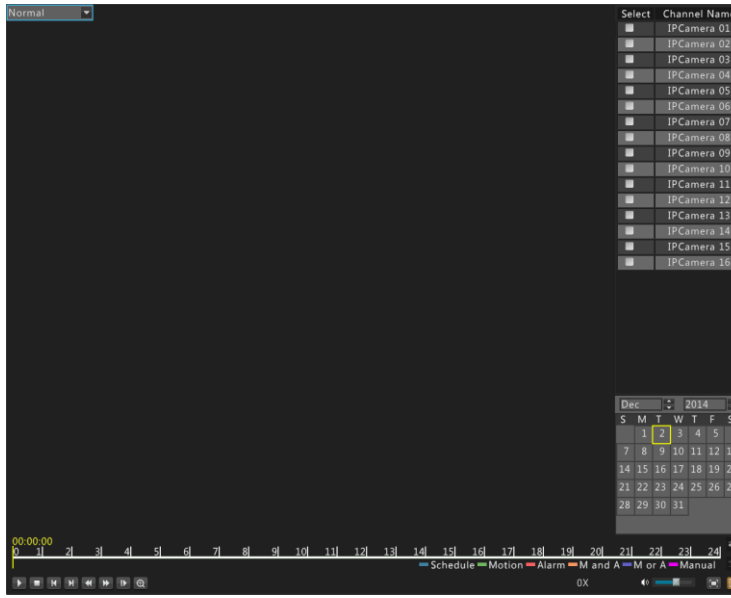
2. Configure the recording time and recording type.



3. Click **OK** to complete the configuration.

Playback

1. In the preview mode, right-click a pane and select **Playback** from the menu.
2. Select a channel from the list, and select the day you want to query from the calendar.



3. Click the **Play** button to start playback. By default the video starts from the first recording. When the video is playing, you may start from anywhere you want by moving the slider in the progress bar.

Accessing Through the Web

Before logging in to the Web interface, make sure that your PC and the device are in the same network.

1. Open the Web browser on your PC and visit the IP address of the device (192.168.0.30 by default). For your first login, you need to install the ActiveX as prompted. When you install the ActiveX, please close all the browsers.
2. Enter the username and password and then click **Login**. The default username is “admin” and password is “123456”.
3. Configure the device as required after login.

5 Specifications

For more specifications, see the datasheet.

Table 5-1 Technical Specifications

Item	Description
Dimensions with front panel (WxDxH)	• Height: 2U • 442.0 mm x 421.0 mm x 86.1 mm (17.4” x 16.6” x 3.4”)
Weight	• < 5.5 kg (12.1 lb.) with no hard disks • < 11 kg (24.3 lb.) with all the hard disks equipped
Power	100 V to 240 V AC with power switch
Maximum power consumption (without disks)	20W
Operation temperature	–10°C to +55°C (14°F to 131°F)
Operation humidity	10% to 90% (non-condensing)
Altitude	–60m to +5000m (-196.85 ft to 16,404.2 ft)

BOM: 3101C07W